MUSIC THERAPY FOR PATIENTS WITH DEMENTIA: EVIDENCE INFORMED RECOMMENDATIONS

By

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Abstract

This thesis will explore the research on implementing music therapy into the care of patients with dementia to decrease anxiety, agitation, and depression. Dementia is a term to describe symptoms secondary to certain medical conditions, such as Alzheimer's disease, Parkinson's disease, or a traumatic brain injury. Symptoms of dementia include memory loss, decreased reasoning and judgement, and a decline in language function. Some of the symptoms associated with dementia are a decreased quality of life, depression, anxiety, and agitation. The literature review explores the integrative intervention of music therapy and whether it is beneficial at addressing both symptoms of dementia, and symptoms associated with dementia. Additionally, which forms of music therapy are most effective, and how they can be implemented into the care of patients with dementia successfully are addressed. While the review of the current literature is located in chapter two of this paper, the paper will also identify the best practice recommendations, a proposed plan of implementation, and a proposed evaluation of the implementation plan.

CHAPTER 1

Introduction

Statement of Purpose

The purpose of this thesis is to develop best practice recommendations for decreasing anxiety, depression, and agitation in patients with dementia through music therapy. Recommendations for best practice will be created in this thesis using evidence-based research articles that discuss the effectiveness of certain music therapy implementations. In Chapter 1 the background of issue importance and relevance of the topic to nursing will be stated. Evidence-based research articles pertaining to music therapy implementation for patients with dementia will be reviewed in Chapter 2. After examining the background information, the relevance to nursing, and the evidence-based research articles, a best practice recommendation proposal will be completed with the purpose of improving the lives of patients with dementia through music therapy.

Background of Issue Importance

Dementia is a term used to describe a decline in an individual's mental ability. This decline is severe enough to interfere with daily living. It is not a particular disease, it is simply a term to describe a set of symptoms caused by a variety of conditions (Alzheimer's Association, 2018). Dementia is caused by abnormal changes to the brain. Some of the conditions that cause dementia are Alzheimer's disease, Parkinson's disease, Huntington's disease, a traumatic brain injury, or a vascular cognitive impairment. These conditions lead to the symptoms associated with dementia which are a decline in language function and ability to communicate, memory loss, and a decline in judgement and reasoning (Alzheimer's Association, 2018). While the changes that occur in the brain that cause dementia generally get worse over time and are

permanent, some symptoms such as depression and overall quality of life may improve with pharmacologic or non-pharmacologic interventions (Alzheimer's Association, 2018). In fact, one of the top symptoms associated with dementia is depression (Ray & Götell, 2018). Individuals with dementia can develop depression due to loss of memory, leading to a loss of independence, and isolation from family and friends. This can impact their overall well-being and sense of self (Ray & Götell, 2018). Agitation and anxiety are also commonly experienced by individuals with dementia. These feelings experienced by patients with dementia directly impact the quality of their lives and their relationships with the people around them. There is an increased need for interventions to provide better quality of life, sustain cognitive function and decrease the progression of cognitive decline and impairment, even though certain alterations in the brain are eventually inevitable (Clements-Cortes & Bartel, 2018). Music therapy has been shown to be an effective non-pharmacological treatment option to decrease depression, agitation and anxiety that can result from having dementia (Ray & Götell, 2018). Music therapy is defined by the American Music Therapy Association as the following:

> "The clinical and evidence-based use of music interventions to accomplish individualized goals within a therapeutic relationship by a credentialed professional who has completed an approved music therapy program" (American Music Therapy Association, n.d., para. 1).

Credentialed music therapists use music to help individuals address cognitive, emotional, physical, and social needs (American Music Therapy Association, n.d.). This type of treatment can take many forms depending on the patient's needs. For example, singing, listening, dancing to, or creating music are all forms of treatment used by music therapists. However, there are certain forms of "therapeutic music" that are still extremely beneficial but are not classified as clinical music therapy by the American Music Therapy Association. For example, when a patient

with Dementia listens to music on an iPod, this is a form of therapeutic music, but it is not the clinical definition of music therapy unless it is being implemented by a music therapist that has completed an approved music therapy program (American Music Therapy Association, n. d.). For the purposes of this paper, some of these studies implement clinical music therapy, while others simply implement therapeutic music and analyze how effective they are in increasing the quality of life of patients with dementia.

While pharmacological treatments are typically used to aid patients with dementia, these methods can be costly and usually 'numb' the patient to themselves and their surroundings. The idea behind music therapy is that it will activate certain parts of the brain through music, to elicit a positive reduction in symptoms for the individual. Some of the symptoms of dementia share the music and language processing structures in the brain, which might explain why music therapy can be beneficial when addressing neurodegenerative symptoms (Zhang, Cai, An, Hui, Ren, Ma, & Zhao, 2016). Music therapy can be used as a method to reduce anxiety, depression and agitation, thus increasing quality of life, and potentially aiding in episodic memory (Clements-Cortes & Bartel, 2018).

Significance of the Problem to Nursing

Dementia affects 50 million people worldwide, with 10 million new cases each year (Dementia, 2019). This diagnosis not only affects the patient, but their family members, friends, and healthcare workers providing care for these patients. Some of the symptomatology of dementia includes memory loss, confusion, changes in personality or behavior, and withdrawal or depression. While these symptoms are detrimental to an individual's ability to perform daily tasks and function as themselves, they are devastating to the family members. This diagnosis often progresses to the point where the individual does not recognize their own family and loses

touch with their own personality traits that make them individualistic. When assessing the primary caregiver, this individual is at risk for depression, decreased quality of life, alcohol and drug abuse, being overweight, and having increased levels of stress (Rio, 2018). Additionally, individuals with dementia are usually elderly, in which case their caregivers might be experiencing their own physical decline and health problems.

In general, music is an outlet for many individuals to reduce stress and provide happiness in their lives. In some ways, it can be seen as a part of a person's self-identity as each individual has their own specific "taste" for music and music genres. Therefore, the idea is that it can be used in the healthcare setting among patients that are particularly depressed, anxious, or upset. If a patient is uncomfortable or experiencing anxiety during a hospitalization, a nurse could suggest that the patient listen to music if the resources are available, rather than primarily providing pharmacologic interventions.

Moreover, the research indicates that it may have a large effect on patients with dementia; such as a positive effect on memory, a sense of one's self, and behavioral changes. This applies to nurses in a wide variety of patient care settings and specialties, who have the ability to provide music to evoke these potential benefits among patients with dementia. Among these settings are long-term care facilities, home-health and home care environments, and acute care settings. As a nurse, there is a duty to provide care and promote health through both pharmacologic and non-pharmacologic interventions. There are benefits of implementing music into nursing practice, especially when providing care for patients with dementia. Therefore, if the means are available, nurses should implement music therapy into their practice. While other forms of non-pharmacologic therapies are practiced more frequently, such as deep-breathing, music therapy should also be considered to improve the patient's overall health and wellbeing.

By implementing music therapy to improve some of the symptoms associated with dementia in patients with dementia, it is important to note that this can also benefit the patient's family members or caregivers who are also affected by the hardships of having a loved-one with the diagnosis of dementia.

Summary

The importance of implementing a form of therapy to improve the lives of patients with Dementia and their families is essential. Pharmacological treatments are unlikely to improve the quality of life of these patients, whereas music therapy is more cost-effective and favorable for the patient. The literature review that follows in Chapter 2 assesses the findings of studies that address the implementation of music therapy and therapeutic music for patients with dementia and supports that this can be used as a beneficial therapy modality for these patients and their families.

CHAPTER 2

Review of Literature

The review of research literature focuses on the effects of music therapy for patients with dementia, and whether or not this is an effective non-pharmacologic intervention that can be implemented into the care of patients with dementia, rather than using standard pharmacologic interventions. The literature review conducted for this thesis was done through the PubMed database for articles with publication dates between the years of 2002 and 2018 in peer-reviewed journals. The search terms used were “music therapy”, with the subheading’s “dementia”, and “Alzheimer’s”. Ten articles were selected after completion of the search. The results from these evidence-based articles will be applied to the proposed best practice to identify ways of better implementing music therapy among patients with dementia.

Benefits of Music Therapy for Elderly Patients with Dementia

For the first qualitative study it aimed to explore and gather in-depth experiences from patients with dementia and their carers after they attended a singing activity with a group (Osman, Tischler, & Schneider, 2014). Semi-structured interviews were used to gather information from the people with dementia and their caretakers. These interviews ranged from 37 to 85 minutes in length and were located in the home of the carer and the participant with dementia (Osman et al., 2014). Topics discussed in the interviews included experiences of the participants attending the sessions, the session’s impact on communication and relationships, and any changes in health and behavior during or after the sessions. The lead author digitally recorded and transcribed the interviews. These interviews occurred during the two-month period when the participants were attending Singing for the Brain sessions. There were 20 participants with a total of 10 patient-carer pairs. These participants were recruited in the East Midlands in

the UK and had to attend at least two Singing for the Brain sessions. Of the 20 participants, there were three mother-daughter couples and seven husband-wife pairs (Osman et al., 2014). The transcribed information from the lead author was subjected to thematic analysis and six themes were identified from the data (Osman et al., 2014). The first theme was "social inclusion and support". The second theme was "a shared experience". The third theme was "positive impact on relationships". The fourth theme was "positive impact on memory". The fifth theme was "lifting the spirits". The final theme was "acceptance of the diagnosis" (Osman et al., 2014). Open codes were identified by the lead author and then ongoing discussion occurred between all of the authors throughout the analysis to warrant reliability of the findings (Osman et al., 2014). The findings support other studies and literature on the utility of arts-based interventions in the care of individuals with dementia. Moreover, one weakness from this study was that it was led by one musician. The Singing for the Brain sessions could have been led by different musicians to see if the results were affected. Also, the study could have looked further into the improvements from the sessions using standardized tests, rather than simply a qualitative gathering of results. A strength from this study was that it supported claims that people with dementia and their perspectives can be included in research, rather than programs that are outcome-based by exhibiting the intrinsic value of music for people with dementia and their carers (Osman et al., 2014). Since this study is a standardized service model, it can be replicated easily which is another advantage (Osman et al., 2014).

Another study focused on spontaneous speech and music therapy (Dassa & Amir, 2014). The purpose of this study was to explore the impact of singing familiar songs to encourage conversations among individuals with middle to late stage Alzheimer's disease (Dassa & Amir, 2014). Additionally, the study sought to gain an understanding of the relationship between the

conversations that occurred during and after the group singing and the specific songs. There were two questions that aided in guiding this investigation. The first was, what were the topics discussed by the group during the music therapy sessions? The second was, what were the connections between the musical qualities and content of the songs, and conversation topics that occurred after the singing? (Dassa & Amir, 2014). This study was qualitative and used content analysis to examine transcriptions of the content that was spoken and sung at the group singing sessions. There was a total of eight group sessions over the course of a one-month period with six participants with middle to late stage Alzheimer's disease (Dassa & Amir, 2014). Two participants were male and four were female. The participants were not able to consent due to their decline in cognitive function, therefore, the Bar-Ilan University's Ethics Committee gave permission to conduct the research with these participants (Dassa & Amir, 2014). The legal guardian or main caregiver also signed a consent form for their loved ones to engage in the group music therapy sessions. The participants went to eight music therapy sessions, twice a week, over the period of one month with each session lasting 45 minutes (Dassa & Amir, 2014). The results from this study support previous studies conducted on the subject. There are previous studies stating that individuals not only have memories of a song's details, such as the lyrics or melody, but also the memories associated with these songs (Tomaino, 2002). Therefore, by playing a song from an individual's past, it can evoke associations and enable a sense of self to emerge, particularly in an individual with declined cognitive functioning. The findings from this study support this through a content analysis revealing that songs from the participants' past evoked memories (Dassa & Amir, 2014). The songs that provoked the most memories were songs relating to their national or social identity. Moreover, the more accessible songs for the individuals were songs from the first few decades of life, rather than songs from later in life

(Dassa & Amir, 2014). Results also support that conversations related to the singing was extensive, and spontaneous responses resulted from group singing without the researcher's encouragement (Dassa & Amir, 2014). This was significant since individuals with middle to late stage Alzheimer's usually fail to engage in spontaneous speech. The participants also felt positively with a sense of accomplishment and belonging postintervention (Dassa & Amir, 2014). Based on the analysis, "conversation related to the songs" such as past memories and social customs and "conversation related to the activity of group singing" such as actual discussions of the act of singing were the two main categories of conversation spoken by the group during the music therapy sessions (Dassa & Amir, 2014). The researchers used content analysis to examine the songs' role for the purpose of understanding the relationship between specific songs and the conversation that followed each song. The research method of text analysis included a systematic process of condensing raw data into categories based on valid inferences and interpretations (Dassa & Amir, 2014). An analysis of the songs was conducted to address the second research question. The song analysis considered the musical elements, the structure of the song, the lyrics and central themes of the song, and cultural context (Dassa & Amir, 2014). The data that was gathered for this qualitative study was gathered as a segment of a larger study that examined the impact of singing on the language and communication abilities of individuals with Alzheimer's disease. The quantitative portion of the larger study looked at "speech quality, singing quality, and aspects of conversational speech during a group music therapy session including the singing of familiar songs" (Dassa & Amir, 2014). One weakness of this study was that it was only conducted on six participants which could have caused some generalizations in the findings. Moreover, the main researcher also acted as the musical therapist which could have interfered with the analysis of the data. While the small sample size can be

considered a weakness, it is also a strength of the study. Since this was a qualitative study, having a small sample size allowed the researcher to obtain more data from each individual and on a more personal level.

A study done by Tuckett, Hodgkinson, Rouillon, Balil-Lozoya, and Parker (2014) evaluated the effectiveness of group music therapy intervention on behaviors of older people with dementia. This was a qualitative study from a semi-structured focus group including family members and staff in residential aged care in Australia (Tuckett et al., 2014). There was a total of five, semi-structured focus groups. Two of these focus groups were comprised of seven family members and three were comprised of a total of 23 staff members, representing three residential aged care facilities (Tuckett et al., 2014). Among the care staff, 21 of the 23 were females. Additionally, 43% were Personal Care Assistants, 22% were Diversional Therapists with one participant describing herself as both a PCA and DT. Registered nursing staff comprised 13% and 43% worked in the dementia-specific unit (Tuckett et al., 2014). The focus group interviews occurred at the end of a 12-week Musical Therapy intervention period with residents in three residential aged care facilities (Tuckett et al., 2014). The findings indicated that the timing of the Music Therapy sessions affected the workflow for the care providers and consequently the older person with dementia in the aged care facility (Tuckett et al., 2014). There is a psychosomatic effect on the participant with dementia from the music therapy, although this effect is temporary. Happiness occurred at the time of the sessions for the participants, but rarely continued after the completion of the intervention (Tuckett et al., 2014). Another finding observed was that there is value in music therapy as it can be utilized as a social gathering, an activity, and for help with cognition, although the therapists had mixed views about the effects of the music on the older person with dementia (Tuckett et al., 2014). Validity of the study was established through

support from previous research conducted on the topic and peer debriefing. Reliability was measured at the level of coding and pattern identification (Tuckett et al., 2014). There is a recommendation of a minimum level of intercoder reliability of 75% agreement of coders and there was a 76% agreement between the two researchers for this study (Tuckett et al., 2014). Rigor was measured by the fact that both researchers arrived at a perfect fit of core categories (Tuckett et al., 2014). A strength from this study was that the researchers obtained information from the caregivers and family members and their opinion on whether music therapy was impactful for the dementia residents, rather than simply observing the dementia residents themselves. Another strength from this study was that the intervention was carried out with the residents with dementia for a greater length of time of twelve weeks. One weakness of this study was that while the study included content regarding the usefulness of music therapy from caregivers and family members, it would have been useful to obtain information about how to improve music therapy sessions to make them more impactful.

A systematic review and meta-analysis performed by Zhang et al. (2016) analyzed the effectiveness of music therapy in treating the symptoms of elderly patients with dementia, and whether this non-pharmacologic intervention can be used as a first-line treatment as opposed to a pharmacological treatment. There was a total of 34 studies included in this systematic review. Across the 34 studies there were 1,757 study subjects that either acted as a control or participated in music therapy (Zhang et al., 2016). The dates of publication of the studies ranged from 1999 to 2015 and the sample sizes of the studies were between 14 and 144 participants (Zhang et al., 2016). Sixteen of the studies were randomized control trials, 10 were controlled clinical trials, and eight were randomized control trial/crossover trials (Zhang et al., 2016). Selection criteria for the studies were that these studies included patients with dementia experiencing behavioral or

cognitive dysfunction. All of the studies compared any form and intervention method of music therapy and the study design was not considered in the selection criteria (Zhang et al., 2016). The literature search was completed using PubMed, EMbase and the Cochrane Library from inception to 2016. MesH terms and keywords were used to discover the appropriate articles (Zhang et al., 2016). Two of the researchers determined the eligibility of studies by extracting and compiling data from the studies using a standardized data extraction form. The quality of the studies that were included were assessed by using the Physiotherapy Evidence Database scale score and the Critical Appraisal Skills Program scale score (Zhang et al., 2016). The findings from the systematic review of the 34 studies indicated that music therapy was effective when patients received interactive therapy versus a compared group (Zhang et al., 2016). There was positive evidence supporting the benefits of using music therapy to aid in controlling disruptive behavior and anxiety. There were also positive evidence supporting the use of music therapy to treat cognitive function, depression, and quality of life (Zhang et al., 2016). The majority of the trials led to the conclusion that music therapy was associated with improvements in disruptive behavior and cognitive function, however, most of these associations were not statistically significant along with having heterogeneity (Zhang et al., 2016). The meta-analysis portion of the systematic review confirmed that the two groups were balanced in their baseline differences, while the meta-regression distinguished that the causes of heterogeneity were most likely the intervention method, comparator, and trial design (Zhang et al., 2016). Moreover, there was no evidence of bias in the studies based on Begg's and Egger's test (Zhang et al., 2016). As stated, one weakness from this systematic review was that although there were associations of improvements in disruptive behavior and cognitive function and music therapy, the majority of these associations were not statistically significant. Some of the strengths of this systematic

review were that the findings were based on research conducted for almost 2,000 individuals, preventing the data from being generalized. Moreover, there was no bias identified in any of the 34 studies (Zhang et al., 2016).

In a study performed by McDermott, Orrell, and Ridder (2014), the impact and meaning of music to individuals with dementia and further knowledge of their experiences with music was explored. This was a qualitative study performed to gain insight on why people with dementia find music beneficial for their well-being and how this occurs. This qualitative study utilized focus groups and interviews with hospital clients with dementia, care home staff, music therapists, and care home residents with dementia and their families (McDermott et al., 2014). Some of the interview questions that were asked for the residents with dementia were, "what does music mean to you?", "what do you think of your music therapy activities?", and "if music is important to you, in what way?" (McDermott et al., 2014). Different interview questions were asked of the family members, staff, and music therapists. These questions were, "what changes and responses do you observe in your family members/clients following music therapy?", and "how do you know when music is meaningful to the person?" (McDermott et al., 2014). After the completion of the interviews and focus groups, they were analyzed for themes. The National Health Service care homes, primarily for people with moderate to severe dementia, agreed to take part in the research project. All of the residents were informed of the study, and their family members and caretakers were asked to attend the music therapy sessions if they lived within a reasonable distance (McDermott et al., 2014). Staff who assisted with day-to-day care of the residents were also asked to join the music therapy sessions. Six focus groups and 17 interviews were conducted. There were as a total of 53 participants who either attended focus groups or were interviewed (McDermott et al., 2014). Twelve of these participants were care home

residents with dementia, four were hospital clients with dementia, 15 were family carers, 14 were care home staff, and eight were music therapists (McDermott et al., 2014). Six distinctive themes arose from the qualitative study. In the findings these were discussed more broadly as a) the impact of music on the individual, b) the effect of the impact of music, c) evaluating and communicating the impact of music, and d) evaluating and communicating the impact of music as themes that the participants were able to discuss with the researcher in the focus groups and interviews (McDermott et al., 2014). The families, staff and therapists all pointed out the immediate responses that the residents had to the stimuli from the music. Staff particularly noted the relaxing effect of music on the mood of the residents' while the families noted the uplifting effect with increased alertness and interest. Recognition of music familiar to the dementia residents was particularly emotionally meaningful for individuals at late stages of dementia. The findings indicate that music therapy supports self-actualization and self-transcendence which are the highest levels of Maslow's Hierarchy of Needs (McDermott et al., 2014). This study focused on how and why music therapy works, rather than its behavioral and psychological effects, which is what most studies regarding this subject have discussed and analyzed and one of the biggest strengths of this research study. Music therapy has the potential to go beyond simply reducing behavioral and psychological symptoms. It is linked to an individual's life history and self-identity. Moreover, the findings also indicated that a person's musical preferences are preserved despite the progression of dementia (McDermott et al., 2014). It was also the first in-depth study on the value of music for people with dementia from the perspectives of the family, carers, staff, music therapists, and people with dementia. A limitation of the study is that music therapy for people with mild to moderate dementia are under-represented. A general inductive approach was chosen to analyze the qualitative data in which the analysis is likely to be guided

by specific evaluation objectives. The long-table approach was utilized to increase transparency of the analysis. The National Research Ethics Service granted ethics approval of the study in June 2011 (McDermott et al., 2014).

In a critical review of the literature, Blackburn and Bradshaw (2014), reviewed studies that reported evaluations of the effects of music therapy as a non-pharmacological intervention for patients with dementia, rather than utilizing pharmacological treatments. Selection criteria for these studies was that they had to be randomized controlled trials investigating the effects of music therapy on individuals diagnosed with dementia defined by the Mini-Mental State Examination or an equivalent diagnostic rating scale (Blackburn & Bradshaw, 2014). All of the studies were conducted in residential care settings. Six randomized controlled trials were used and four compared music therapy with usual care and two compared music therapy with an alternative treatment. One of the studies compared music therapy to a reading activity, and the other compared it to a range of other interventions including reading stimulated social stimulus and actual social stimulus (Blackburn & Bradshaw, 2014). Two of the studies used passive music therapy techniques and four of the studies used active music therapy techniques. Active music therapy is more interactive, usually requiring the participant to actively play musical instruments or sing along in either an individual or group setting. Passive music therapy involves simply listening to music by the participant (Blackburn & Bradshaw, 2014). One of the studies that used passive music therapy analyzed the effects of music therapy on agitation and depression. Thirty-eight participants were randomized to either be in the control group or to receive music therapy in the form of music streaming for several hours a day over twelve weeks into their rooms. The other study compared passive music therapy with other therapeutic activities to determine the effects on agitation. This study included 111 nursing home residents. The four remaining studies

evaluated the effects of active music therapy on a variety of outcomes such as anxiety, agitation, depression, aggression, overall quality of life and changes in cognitive functioning. All of the participants in the studies had moderate to severe dementia (Blackburn & Bradshaw, 2014). The findings of this review suggested that music therapy has the potential for reducing symptoms of anxiety, depression and agitated behavior (Blackburn & Bradshaw, 2014). Music therapy can also potentially increase the quality of life and cognitive functioning for elderly patients with dementia. Additionally, this intervention is a safe and low-cost alternative to pharmacologic interventions according to these studies (Blackburn & Bradshaw, 2014). Medline, Embase, PsychInfo and BNI were electronic databases used to search for the studies used in this systematic review (Blackburn & Bradshaw, 2014). The quality of the methods of randomization used for all six studies was rigorous, while only three reported taking measures to blind their studies (Blackburn & Bradshaw, 2014). Some limitations of these studies were the potential of the control groups being exposed to the intervention, especially in the studies involving passive music therapy, 'contaminating' the data. For example, this could have occurred if a resident wondered into another resident's room. However, a strength of this review was that it included two different forms of music therapy in the studies that were reviewed. Both active and passive forms of music therapy were analyzed.

Certified nursing assistants (CNAs) and nurses caring for patients with dementia might be able to more easily integrate music therapy into their own routine care, rather than having to rely on music therapists to administer music therapy, which was a phenomena analyzed by Ray and Götell (2018). The purpose of this study was to demonstrate the influence of a music intervention led by CNAs, trained by music therapists, to address symptoms of depression and wellbeing among individuals with moderate dementia (Ray & Götell, 2018). The study used an exploratory

design, with each participant serving as their own control in measuring the effectiveness of musical therapy on their symptoms of depression and overall wellbeing. Initial symptoms of depression were compared to depression symptoms following two weeks of music therapy initiated by the music therapists. These music therapists then spent three days training CNAs how to implement music therapy into their daily care routines. The lingering effect of this therapy was also measured by having the participants not partake in music therapy during a two week "wash-out period". Depressive symptoms were then measured after the trained CNAs led music activities including singing and music-with-movement for two weeks for 62 nursing home residents with moderate dementia. These nursing home residents were referred by clinical staff from three separate nursing homes in New York. The inclusion criteria for the participants were that they had to be long-term residents in a nursing home, have informed consent from a legal representative, moderate dementia according to the Functional Assessment Staging Test (FAST), stable comorbidities, no psychiatric disorders other than depression or dementia, and the ability to hear without an assistive device (Ray & Götell, 2018). Patients with dementia without symptoms of depression were excluded from the study. Seventy nursing home residents were recruited, however, eight did not complete the study due to being discharged from the nursing home. Depression symptoms of these residents were measured using the Cornell Scale for Depression. Twenty six of the 62 residents within the trial were video recorded after the researchers obtained video consent from these individuals. Roughly 200 hours of video footage were observed using the Music in Dementia Scale. Raters watching this footage measured any changes in well-being, mood, engagement, and level of enjoyment in the residents during the music activities facilitated by the CNAs. The findings from this study indicated that music therapy has the ability to decrease symptoms of depression in nursing home residents with

moderate dementia as their symptoms of depression declined dramatically after the two weeks of musical therapy. Their symptoms of depression then increased during the two-week wash-out period where no music therapy was implemented and stabilized back down when the CNA's involved with the study implemented music-with-movement to their caregiving. The validity of the study was preserved by withholding participation from the analysts, and a nurse and music therapist, in the music interventions and by upholding no relation to the participants in the study.

Decreased social engagement, mood, and agitation are also symptoms experienced by patients with dementia. A study done by Ihara, Tompkins, Inoue, and Sonneman (2019) examined the effects on individuals with dementia of a person-centered music listening intervention on social engagement, mood, and agitation. This study was a quasi-experimental study that assessed mood, agitation, engaging socially, and connecting to music before, during, and after the intervention (Ihara, Tompkins, Inoue, & Sonneman, 2019). Permission from the George Mason University ethical review board was obtained to complete the study. Inclusion criteria for the participants included having a diagnosis of dementia and a score of less than or equal to 24 on the Mini-Mental State Examination. The experiment took place in five community-based adult day health centers. These five centers all required a minimum attendance of two days of a week and included clients from a wide range of ethnicities, cultures, cognitive impairment levels, and socioeconomic status. A group of 20 participants were in the comparison group, while 31 participants were in the intervention group (Ihara et al., 2019). This intervention included having the participants partake in the MUSIC & MEMORY program, which is an individualized music listening system where the participants listened to a personalized playlist on an iPod twice a week for six weeks. These participants were video recorded and observed while doing their normal activities for 20 minutes before the intervention, then brought to another room

for the intervention itself, and were also observed for 20 minutes throughout the time of the intervention. After the intervention concluded, they were then observed for another 20 minutes while they completed their daily activities again. For these 20-minute periods, the researchers observed and assessed mood, agitation, connecting to music, and engaging socially. Mood and agitation were assessed using standardized instruments pre-, post-, and 6 weeks post-intervention for both the intervention and comparison groups. Using the Cornell Scale for Depression in Dementia, levels of depression were assessed in the participants. The Cohen-Mansfield Agitation Inventory was used to assess agitation in the participants. While the intervention group listened to music, the comparison group participated in their normal daily activities at their community-based adult day health center (Ihara et al., 2019). Through the behavioral observations, increases in eye contact, eye movement, joy, talkativeness, engagement, and decreases in moving/rocking/dancing and sleeping were all statistically significant when comparing pre- to post-intervention. There were observational increases in alertness, joy, smiling, relaxation, recognition of music, singing, following rhythm, moving/rocking/dancing, eye movement, eye contact, talkativeness, and engagement that were statistically significant during the intervention. During the intervention to post-intervention phase, there were statistically significant increases in observational relaxation, calmness, smiling, music recognition, singing, moving/dancing/rocking engagement, eye contact, eye movement, talkativeness, agitation, and sleeping. Positive behavioral effects were demonstrated during the intervention, but joy, eye contact, eye movement, engagement, and talkativeness, and a decrease in sleeping were all aspects that were sustained changes after the intervention. However, there were no statistically significant changes in mood and agitation when measured using the standardized instruments at the pre-, post-, and 6 weeks post-intervention phases. This potentially could have been due to the lack of the ability of

the standardized instruments to assess more subtle changes in mood and agitation such as smiling (Ihara et al., 2019). One limitation of the study was that the participants were not randomly selected from the facilities. Agency staff chose participants based on who they thought would benefit the most from a music intervention which could have inflicted selection bias on the study. Moreover, the participants in the study were not all receiving the intervention at the same time. There were also differences in external conditions that could not particularly be controlled while the intervention was being implemented at each center (Ihara et al., 2019).

Another systematic review and meta-analysis evaluated the effects on cognitive functions and behavioral symptoms between receptive and interactive music therapies for people living with dementia (Tsoi et al., 2018). Receptive music therapy requires that the participant listen to music, while interactive music therapy requires that the participant get more involved and participate in the music therapy activity (Tsoi et al., 2018). There was a total of 38 trials included in this systematic review with 1418 total participants. The dates of publication of the studies ranged from 1999 to 2017 with participants from United Kingdom, Australia, Japan, United States, and 10 other countries. Twenty-eight of the studies were randomized control trials, and ten used a nonrandomized experimental design. Interactive music therapy was researched in 25 studies, receptive music therapy was researched in seven studies, and both receptive and interactive music therapy were researched in six studies. The majority of the studies assessing interactive music therapy utilized a group therapy approach, while an individualized approach was utilized in the studies involving receptive music therapy (Tsoi et al., 2018). Selection criteria for the studies were that the participants had to be diagnosed with dementia and the studies had to compare interactive music therapy or receptive music therapy with a control group. Additionally, they had to report cognitive function, apathy, anxiety symptoms, agitation,

depressive symptoms, or behavioral problems with a clinical assessment scale. The clinical assessment scales also had to be measured from baseline to the endpoint of the studies between the intervention and control groups to be included in the study (Tsoi et al., 2018). Studies were excluded if there was an integrative intervention such as exercise or art that was implemented along with music therapy. They were also excluded if participants with dementia were compared to healthy individuals (Tsoi et al., 2018). The literature search was completed on MEDLINE, EMbase, and CINAHL from inception to September 15, 2017 (Tsoi et al., 2018). Some of the key words used to complete the search were, “music”, “sing”, “song”, and “listen”, along with “dementia”, “Alzheimer”, “cognitive impairment”, and “elder” (Tsoi et al., 2018). The results from this study indicated that receptive music therapy significantly reduces anxiety, behavioral problems, and agitation among individuals with dementia (Tsoi et al., 2018). Receptive music therapy also appears to be more effective than interactive music therapy, as the majority of the changes were not statistically significant when interactive music therapy was implemented (Tsoi et al., 2018). Since there were a total of 1418 total participants included in this review, it allowed for more thorough and reliable data. The risk for bias of the studies were assessed by the Cochrane Risk of Bias, and the quality of each study was assessed by the methodology section of the Consolidated Standards of Reporting Trials statement (Tsoi et al., 2018).

Fraile et al. (2019) conducted a study with a 2 x 2 crossover study design that measured the impact of learning an individualized song on autobiographical memory recall and other cognitive abilities in 12 patients with mild to moderate Alzheimer's disease. Two future speech and language therapists created personalized songs for each participant in the study comprising of two verses and one chorus. Each song was designed and created from one happy autobiographical memory or memory of importance, and one favorite song indicated by the

participant or participant's care partner. Over the course of 10 sessions, this song was taught to the participant by a speech and language therapy student. These were taught for 20-minute periods twice a week for five weeks. The participant's autobiographical recall and cognitive abilities were both tested at three separate times throughout the study. They were first tested at the beginning of the experiment, at the middle, and at the end of the experiment period. The participants were twelve patients with Alzheimer's disease at a stage considered mild to moderate according to the DSM V. They also had to have a MMSE score of 15 to 26 and had to have normal or corrected-to-normal vision and hearing. They were recruited from memory clinics, day care centers, and nursing homes in Lyon, France and had to be supported by a family care partner. This study respected the Declaration of Helsinki regarding ethical protocols for human experimentation (Fraile et al., 2019). The 12 participants were split up into two groups of six, with one group having a non-training period before the last test, compared to no non-training period before the last test. One participant's results were excluded because of emotional lability associated with the participant's care partner's poor health, which skewed the results. After this outlier was excluded, the study's results showed a large improvement in autobiographical memory retrieval and cognitive abilities. Specifically, memory abilities, executive functions, and language abilities all saw improvements after the song training, when compared to the non-training period. This study demonstrated that despite difficulties with memory recall and language abilities in patients with Alzheimer's, sung-training helped these patients to improve their ability to recall autobiographical details (Fraile et al., 2019). Despite their diagnosis, they were capable of learning music. Since this was a pilot study there was a small sample size. Therefore, while this was a limitation to the study, this study could be seen as a gateway for conducting a similar study on a larger scale to obtain more significant clinical data to support its

findings (Fraile et al., 2019). There was also no control group in this study since the participants served as their own controls, therefore, it was uncertain whether the results would have been different when using unfamiliar songs, or songs with less emotional relevance and specificity to each participant. Moreover, the participant's own relationship with music could have been considered (Fraile et al., 2019). For example, this intervention might be more beneficial for patients who were previously musicians.

Summary

Based on the studies in this review, the research shows that participating in music therapy, whether it is individualized or within a group setting, can improve some of the symptoms experienced by individuals with moderate to severe dementia. The symptoms specifically are, depression, anxiety, and agitation (Zhang et al., 2016). Music therapy can also help with social inclusion, acceptance of diagnoses, and a positive impact on memory (Osman et al., 2014). This intervention also inspired certain individuals with dementia to communicate, discuss the music, and even sing along. Two of the studies indicated that music therapy establishes a sense of self and addresses the highest levels of Maslow's Hierarchy of Needs through self-transcendence and self-actualization (McDermott et al., 2014). Music is able to tap into a person's self-identity through their personal music preferences and life history. This supports that music therapy can go beyond addressing behavioral problems and is capable of addressing actual human needs for individual's with dementia. Therefore, even though the decline in brain function cannot be reversed, certain enrichment and important aspects of life can be addressed through music therapy as a non-pharmacologic intervention. According to the findings, symptoms of depression can be significantly decreased through music therapy. Specifically, music activities facilitated by CNAs who have been specifically trained by musical

therapists can sustain the reduction of depression and increase overall well-being in patients with moderate to severe dementia (Ray & Götell, 2018). Music Therapy is a low-cost, safe, and minimally invasive intervention that has the potential of being provided by nurses specializing in mental health and other carers working in residential settings among patients with dementia (Blackburn & Bradshaw, 2014). Receptive music therapy is more effective than interactive music therapy in reducing anxiety, agitation, and behavioral problems in individuals with dementia (Tsoi et al., 2018). One study even demonstrated a significant improvement in autobiographical memory retrieval and cognitive abilities when an individualized song was taught to the participant over the course of several weeks (Fraile et al., 2019).

CHAPTER 3

Best Practice Recommendations: Music Therapy for Patients with Dementia

The purpose of this thesis was to create evidence informed best practice recommendations to decrease anxiety, agitation, and depression in patients with dementia through the implementation of music therapy. As shown in Table 1, chapter three details the specific proposed best practice recommendations to help nurses, CNAs, and other healthcare providers implement music therapy into the daily care of patients with dementia, rather than solely relying on pharmacologic forms of treatment.

In the previous chapter, the literature review summarized ten different articles pertaining to music therapy. Some of the articles analyzed the benefits of personalized songs, while others compared receptive music therapy to interactive music therapy. The article by Ray and Götell (2018) studied whether or not implementing music therapy from trained CNAs was as beneficial as it would be with a music therapist. Osman et al. (2016), focused on the relationship between the patient with dementia and their caregivers and family members. The research has shown that using a song specific to an individual when implementing music therapy, can be beneficial for memory and cognitive function (Fraile et al., 2019). This can also trigger spontaneous speech when the music pertains to the individual's identity (Dassa & Amir, 2014). The research also details that receptive music therapy, where the individual simply listens to music, is less expensive and more beneficial at decreasing agitation, anxiety, and behavioral problems (Tsoi et al., 2018). Additionally, when music therapy is implemented by CNAs, this is just as effective at decreasing levels of depression when compared to implementation by music therapists (Ray & Götell, 2018).

Table 1

Best Practice Recommendations for Music Therapy Among Patients with Dementia

Recommendation	Rationale	References	Level of Evidence
Use of personalized songs for music therapy intervention	• Using songs specific to each individual are effective in addressing the decline of autobiographical memory and cognitive function in persons with Alzheimer's disease.	Fraile, E., Bernon, D., Rouch, I., Pongan, E., Tillmann, B., & Lévêque, Y. (2019). The effect of learning an individualized song on autobiographica memory recall in individuals with Alzheimer's disease: A pilot study. *Journal of Clinical & Experimental Neuropsychology, 41*(7), 760-768.	Level IV
	• There was a statistically significant decrease in levels of agitation during and after the implementation of individualized music therapy, when compared to the implementation of classical music.	Zhang, Y., Cai, J., An, L., Hui, F., Ren, T., Ma, H., & Zhao, Q. (2017). Does music therapy enhance behavioral and cognitive function in elderly dementia patients? A systematic review and meta-analysis. *Ageing Research Reviews, 35*, 1-11	Level I
	• Selecting songs related to the individual with dementia's past, social identity, and national identity can encourage spontaneous speech. This can also elicit	Dassa, A., & Amir, D. (2014). The role of singing familiar songs in encouraging conversation among people with middle to late stage alzheimer's disease. *Journal of Music Therapy, 51*(2), 131-153	Level VI

	memories from the past, and help group members express positive feelings, a sense of accomplishment, and belonging.		
Use of receptive music therapy	• Listening to music specific to an individual's personal taste, increases social engagement even after the individual has finished listening to music and returned to their normal activities.	Ihara, E. S., Tompkins, C. J., Inoue, M., & Sonneman, S. (2019). Results from a person-centered music intervention for individuals living with dementia. *Geriatrics & Gerontology International, 19*(1), 30-34.	Level III
	• Receptive music therapy is less expensive, and more effective than interactive music therapy at decreasing levels of anxiety, agitation, and behavioral problems.	Tsoi, K. K. F., Chan, J. Y. C., Ng, Y. M., Lee, M. M. Y., Kwok, T. C. Y., & Wong, S. Y. S. (2018). Receptive music therapy is more effective than interactive music therapy to relieve behavioral and psychological symptoms of dementia: A systematic review and meta-analysis. *Journal of the American Medical Directors Association, 19*(7), 568-567.	Level I
Implementation of music therapy by CNAs	• Rather than having music therapists initiate music therapy into daily care, CNAs trained by music therapists are able to incorporate music therapy into their daily care routines,	Ray, K. D., & Götell, E. (2018). The Use of Music and Music Therapy in Ameliorating Depression Symptoms and Improving Well-Being in Nursing Home Residents With Dementia. *Frontiers in medicine*, *5*, 287.	Level IV

	with it being just as effective at decreasing symptoms of depression. This is more cost effective and efficient for facilities to implement into the care of patients with dementia and addresses the fact that music therapists are not available to care facilities all of the time.		
Initiation of music-with-movement	• Music-with-movement was shown to significantly improve well-being in patients with dementia.	Ray, K. D., & Götell, E. (2018). The Use of Music and Music Therapy in Ameliorating Depression Symptoms and Improving Well-Being in Nursing Home Residents With Dementia. *Frontiers in medicine*, *5*, 287.	Level IV
Regardless of the severity of a patient's dementia, music therapy should be implemented into their care	• Even though music therapy is shown to be more beneficial in decreasing depression and anxiety in individuals with moderate dementia, it should still be implemented into the care of individuals with severe dementia.	Zhang, Y., Cai, J., An, L., Hui, F., Ren, T., Ma, H., & Zhao, Q. (2017). Does music therapy enhance behavioral and cognitive function in elderly dementia patients? A systematic review and meta-analysis. *Ageing Research Reviews, 35*, 1-11	Level I
	• Music therapy, specifically interactive music therapy, was	Zhang, Y., Cai, J., An, L., Hui, F., Ren, T., Ma, H., & Zhao, Q. (2017). Does music therapy	

	beneficial to patients with severe dementia in regard to decreasing their apathy.	enhance behavioral and cognitive function in elderly dementia patients? A systematic review and meta-analysis. *Ageing Research Reviews, 35*, 1-11	Level I
	• Individuals at late stages of dementia experienced self-actualization, and self-transcendence when listening to music familiar to these participants. These fulfill the highest level of Maslow's Hierarchy of Needs.	Mcdermott, O., Orrell, M., & Ridder, H. M. (2014). The importance of music for people with dementia: The perspectives of people with dementia, family carers, staff and music therapists. *Aging & Mental Health, 18*(6), 706-716.	Level VI
Music therapy should be consistently integrated into daily care at 20 to 45-minute intervals	• During 45-minute sessions twice a week for eight weeks, the participants had an increase in spontaneous speech, and memory recall associated with the specific songs used. This helped to indicate that the participants were able to stay engaged and benefit from music therapy for a full 45 minutes at a time.	Dassa, A., & Amir, D. (2014). The role of singing familiar songs in encouraging conversation among people with middle to late stage alzheimer's disease. *Journal of Music Therapy, 51*(2), 131-153	Level IV
	• When CNAs trained by music therapists implemented music therapy into their daily care for patients with	Ray, K. D., & Götell, E. (2018). The Use of Music and Music Therapy in Ameliorating Depression Symptoms and Improving Well-Being in Nursing Home Residents With Dementia. *Frontiers in medicine*, *5*, 287.	Level IV

	dementia, depression decreased significantly.		
	• During 20-minute sessions twice a week for six weeks, positive behavioral effects were observed during the intervention of music therapy and sustained after the intervention. These positive behavioral effects were behaviors such as smiling, eye contact, engagement, and talkativeness.	Ihara, E. S., Tompkins, C. J., Inoue, M., & Sonneman, S. (2019). Results from a person-centered music intervention for individuals living with dementia. *Geriatrics & Gerontology International, 19*(1), 30-34.	Level III
Caregivers and family members should participate in music therapy with their loved-one	• Family members and caregivers can also benefit from engaging in music therapy with the participant diagnosed with dementia. The individual with dementia and their loved one may gain a shared experience, and a positive impact on their relationship from participating in music therapy together.	Osman, S. E., Tischler, V., & Schneider, J. (2016). 'Singing for the brain': a qualitative study exploring the health and well-being benefits of singing for people with dementia and their carers. *Dementia, 15*(6), 1326-1339.	Level VI

Summary of Best Practice Recommendations

The literature review in chapter two detailed the important aspects of implementation of music therapy and which forms of application are most effective and beneficial in decreasing symptoms such as depression, anxiety, and overall wellbeing among individuals with dementia. Fraile et al. (2019) determined that the use of a song specific to each individual with dementia when using music therapy as an intervention is capable of addressing declines in memory and cognitive function. Memory retrieval and cognitive function increased significantly during the music therapy sessions for these participants (Fraile et al., 2019). When compared to the implementation of classical music, Zhang at el. (2017) found that agitation decreased more when personalized music therapy was used for individuals with dementia. In the study conducted by Dassa & Amir (2014), songs specific to the individual's national and social identity were able to enact spontaneous speech, positive feelings, and memory recall for the individual's involved in the study. Tsoi et al. (2018) concluded that receptive music therapy is more effective than interactive music therapy when analyzing decreases in depression for individual's with dementia. Listening to music can still increase social engagement despite the lack of an interactive nature specific to other forms of music therapy (Ihara et al., 2019). However, even though implementing music with movement can be more time consuming for the caregiver or individual initiating the music therapy, it is shown to significantly improve well-being for patients with dementia according to Ray and Götell (2018). Ray and Götell (2018) also analyzed whether or not music therapy implemented by CNAs can be just as effective as music therapy implemented by music therapists. The study found that after CNAs went through three days of training, CNAs were able to implement music therapy into their daily care and have it be just as effective at decreasing depression as it was for music therapists to administer the music therapy (Ray and Götell, 2018). The studies also found that

music therapy is beneficial for individuals with dementia, regardless of the severity of the dementia. Zhang et al. (2017) found that music therapy was effective at decreasing depression in individual's with moderate dementia. This study also found that apathy was decreased for individual's with severe dementia when interactive music therapy was used (Zhang et al., 2017). Moreover, Maslow's highest level of the Hierarchy of Needs was fulfilled for individual's with late stages of dementia when they listened to music specific to their taste according to McDermott et al. (2014). A few of the studies implemented music therapy at different intervals of time and consistency. During 20-minute sessions in the study conducted by Ihara et al. (2019), the individuals experienced positive behavioral changes. The study done by Dassa and Amir (2014) implemented music therapy for 45 minutes during each session. Even though these music therapy sessions were longer, the participants still exhibited increases in spontaneous speech and memory recall (Dassa & Amir, 2014). Additionally, in the study done by Ray and Götell (2018), the CNAs implemented music therapy daily into routine care, and the individuals experienced significant decreases in depression. In the first study reviewed in chapter two, it detailed the specific benefits of integrating music therapy into the lives of both individuals with dementia and their caregivers. This study found that it can create a shared experience and a positive impact on the relationship for both the individual with dementia and their caregiver (Osman et al., 2016).

CHAPTER 4

Implementation and Evaluation

The first section of chapter four will focus on the implementation of an online educational training session about how to integrate music therapy into the care of patients with dementia in the hospital setting. The proposed online educational training session will detail the evidence-informed recommendations for effectively implementing music therapy into the daily care of patients with dementia experiencing anxiety, depression, and agitation. This will give members of the healthcare team another integrative option that is non-invasive and cost-effective to reduce the symptoms associated with dementia and improve their overall wellness and quality of life. The online educational training session will include the benefits of utilizing music therapy for patients with dementia, how to implement music therapy, which forms of music therapy are most effective, when to utilize music therapy, how often to integrate it into care, and who to include when it is being implemented. The clinical educator or clinical nurse leader on the specific unit of implementation will be in charge of distributing the online educational training session and ensuring that every nurse on the floor has viewed and completed the online educational training session. Once each nurse has completed the online educational training session, they will be responsible for implementing music therapy into the care of their patients when applicable and educating the family members or caregivers on this intervention in order to encourage them to utilize music therapy upon discharge. This will be monitored through the electronic charting system used by the facility. Whenever a nurse implements music therapy into the care of a patient, he/she will chart this intervention within the electronic medical record (EMR).

In order to effectively implement an online educational training session utilizing music therapy for patients with dementia in an acute care setting, the Plan-Do-Study-Act (PDSA) Cycle will be used. This is a commonly used framework among health care organizations to successfully implement evidence-based research into a clinical care setting (Institute for Healthcare Improvement, 2017). The PDSA cycle will be a framework for the implementation of an online educational training session on how to utilize music therapy in the hospital setting for patients with dementia. The specific aspects of the PDSA cycle that will be targeted for the implementation section of this thesis are Plan, Do, Study, and Act (Institute for Healthcare Improvement, 2017).

In the second section of chapter four, the evaluation of the implementation of an online educational training session will be addressed. While using the PDSA cycle, testing the online educational training session will begin on a small-scale level and implemented on only one neurological unit at one hospital. After each PDSA cycle, improvement of the cycle will be implemented for future PDSA cycles. After the enhancement of the online educational training session through several PDSA cycles, the online trainings will be implemented on a larger scale. This will include other units of the hospital that admit patients with dementia, or simply other units that have patients experiencing anxiety, depression, or agitation and have the potential to benefit from this intervention. Beyond this, it may be implemented at other healthcare facilities. The study stage of the PDSA cycle will be used to evaluate the effectiveness of the implementation of an online educational training session concerning integrating music therapy into daily care. The act stage of the PDSA cycle will detail what was learned from the previous stages of the cycle and analyze what was learned to refine this for future implementation. Concluding the thesis will be the strengths and limitations of implementation of music therapy

among patients with dementia, and additional recommendations for furthering research in the future on this topic.

Implementation

Implementing an Online Educational Training Session on a Neurological Unit

According to the research, music therapy can be utilized to improve the quality of life of patients with dementia by decreasing anxiety, depression, and agitation. Integrating music therapy into the care of patients with dementia is an evidence-based integrative approach to benefit their overall health and wellness. An online educational training session detailing the importance of music therapy and how it can be effectively utilized in daily care will be implemented using the PDSA cycle on a neurological unit within a hospital that has a unit specific to patients with neurological disorders or conditions. Through further cycles of the PDSA, this online educational training session can be further implemented hospital-wide and among other hospitals.

Plan. Plan is the beginning stage of the PDSA cycle that will direct the implementation of an online educational training session into a neurology unit within a hospital that has a unit specific to patients with neurological disorders or acute issues related to the brain. To begin the planning stage, research would be conducted to assess potential online training systems available for implementation among healthcare providers (Institute for Healthcare Improvement, 2017). Next in the planning stage is to predict what will occur and possible considerations for implementation. One factor to consider is the money involved in using an online training system and how much it would cost to implement it per person, and what this cost includes once access is purchased. Additionally, the cost and availability of hiring music therapists to design an online educational training session to teach nurses how to implement music therapy into their practice

should be considered. Moreover, how many nurses will be viewing and completing the online educational training session should also be considered. Not only this, but when the nurses will be completing the educational training and how long it will take them to complete it. For planning purposes, it is recommended that the nurses complete this online educational training session while they are working on the unit, during paid time. This will encourage the timely completion of the session among the staff and will exemplify the unit's commitment to continual education and application of evidence-based practice interventions. Upon completion of the online educational training session, it is recommended that continuing education and a certificate of completion be awarded to those who completed the training session. This certificate would be validated by the American Music Therapy Association stating that the nurse is competent in integrating music therapy and therapeutic music into the care of their patients. This would encourage the staff to participate in the training session, as it would provide an immediate benefit to them and their career. For the purpose of this thesis, the online educational training sessions will be created by music therapists accredited by the American Music Therapy Association following the best-practice recommendations stated in this thesis. Another part of planning will be for the nursing administrators to ensure that resources are allocated to this project. This will include access to any equipment needed to provide music therapy. For instance, hiring music therapists to design the online educational training session, and ensuring that every TV has music channels will be resources that need to be available.

Another aspect of the planning stage of the PDSA cycle is stating a clear objective for implementation of an online educational training session concerning music therapy (Institute for Healthcare Improvement, 2017). Nurses providing care to patients with dementia need to be aware of the beneficial aspects of implementing music therapy into the care of these patients, and

how this can improve the health of their patients in a holistic manner. During the planning stage, the clinical educator and clinical nurse leaders on the neurological unit will inform the nurses on the unit to the purpose and objective of the online educational training session (Institute for Healthcare Improvement, 2017).

The last aspect of the planning stage of the PDSA cycle is to plan out how to test the effects of the online educational training session (Institute for Healthcare Improvement, 2017). To properly assess the effects of implementing this online educational training, a pre- and post-online evaluation would need to be administered to the nurses on the unit. This would assess changes in knowledge surrounding the benefits of music therapy, how to implement music therapy, when to implement music therapy, which forms of music therapy are most effective, when to utilize music therapy, how often to integrate it into care, and who to include for implementation. Additionally, after the nurses complete the online educational training sessions, a focus group could be held to engage a guided discussion of music therapy implementation and the online system that was used to implement the online educational training session. To further assess if the music therapy intervention is being infused into nursing practice, a section will be embedded so that music therapy can be charted within the electronic medical record system of the facility. This section will be added by the technology team responsible for updating the EMR system. This new section of the EMR will be communicated to the nurses by the clinical educators and clinical nurse leaders. Once all of the aspects of the planning stage are completed, such as having an established objective, predicting the outcomes of the online educational training sessions, and establishing the evaluation method, the Do stage of implementation can begin (Institute for Healthcare Improvement, 2017).

Do. The Do stage of the PDSA cycle is where the implementation can be tested on a small scale (Institute for Healthcare Improvement, 2017). The online educational training session for the theoretical implementation of the evidence-based recommendations for utilizing music therapy among patients with dementia will be created by music therapists accredited by the American Music Therapy Association. The training will provide details on the benefits of implementing music therapy, and how to implement it, with an emphasis on incorporating it into the care of patients with dementia. The best-practice recommendations that will be integrated into the online educational training session include incorporating personalized songs when implementing music therapy, using receptive music therapy, including caregivers and family members in the music therapy, implementing it daily for 20 to 45 minute sessions, and initiating it for all patients with dementia regardless of the severity of the dementia. The online educational training session will be computer-based and would take about one hour to complete. After the completion of the training session, the nurse will get a certificate from the American Music Therapy Association stating that they completed the training and are competent in integrating music therapy into the care of their patients. After registering for the online educational training session, the nurses will have five weeks to complete the training. Before the nurses on the specific unit are able to begin the online educational training session, they will complete a pre-test assessing their knowledge of the information that will be presented in the training. This pre-test will be integrated into the beginning of the training and will take about ten to twenty minutes to complete. Once the pre-test is completed, the nurse can start the one-hour training session. After the one-hour training session, the nurse will complete a ten to twenty-minute post-test survey assessing what the nurse learned so that pre-test and post-test scores can be compared. During the implementation stage, the behaviors of the nurses on the unit will be assessed for

their level of reception for the online educational training session. Any unexpected observations or problems that arose during the implementation stage will be documented during this time as well (Institute for Healthcare Improvement, 2017). Another part of the Do stage would be the focus group held by clinical educators or clinical nurse leaders on the unit to engage the nurses in a discussion about implementing music therapy, and the online system that will be used to implement the online educational training session. Lastly, the nurses will be informed by the clinical educators and clinical nurse leaders on the unit of the additional section within the EMR system for charting the intervention of music therapy. The use of music therapy in clinical practice and the utilization of this new charting section within the EMR will be audited for a year following the implementation of the online educational training session.

Summary

The implementation stages for best practice recommendations concerning the implementation of music therapy as an integrative modality to decrease anxiety, depression, and agitation among patients with dementia was developed from the PDSA cycle for improvement through an online educational training session. This PDSA cycle is an improvement model that takes the fundamentals of the scientific method and applies them to the healthcare setting for quality improvement (Institute for Healthcare Improvement, 2017). The beginning steps of the PDSA cycle include Plan and Do and were addressed in this chapter. In the following section, the Study and Act steps of the PDSA cycle will be discussed for the evaluation of implementing the online educational training session (Institute for Healthcare Improvement, 2017).

Evaluation

The final sections of integrating the evidence-based recommendations for music therapy implementation among patients with dementia through an online educational training session are

the Study and Act stages of the PDSA cycle. The Study stage evaluates the effectiveness of the intervention for healthcare improvement (Institute for Healthcare Improvement, 2017). The Act stage allows for refinements and changes to be made to the online education training session based on what was learned from previous PDSA cycles (Institute for Healthcare Improvement, 2017).

Study. During the Study stage of the PDSA cycle, the charge nurses and clinical nurse leaders on the unit will evaluate the efficacy of implementing the online educational training session as a unit-wide requirement for nurses (Institute for Healthcare Improvement, 2017). The clinical educators and clinical nurse leaders will evaluate the results from the pre- and post-surveys to assess the best practice knowledge and change in best practice knowledge surrounding music therapy implementation into clinical care after completion of the online educational training session. Feedback from the focus group will also be analyzed, and how often music therapy is integrated into care and charted will also be audited for a year following the implementation of the intervention.

Another aspect of the Study stage is comparing the data that was collected to the predictions (Institute for Healthcare Improvement, 2017). The predicted outcome of increasing the implementation of music therapy into the care of patients after the completion of the online educational training session will align with the intended outcome associated with this implementation (Institute for Healthcare Improvement, 2017). During the focus group, nurses on the unit will be expected to express positive reception of implementing music therapy into care, and that the online educational training session made them feel proficient and confident enough to utilize this integrative intervention. Nurses would also be expected to implement music therapy into the care of their patients, and chart this in the EMR system. The final aspect of the

Study stage is to reflect on what was learned through implementing the online educational training session (Institute for Healthcare Improvement, 2017).

Act. The concluding stage of the PDSA cycle is the Act stage (Institute for Healthcare Improvement, 2017). During this stage of the cycle, alterations and refinements are made to the online educational training session based on what was learned from the preceding cycle stages (Institute for Healthcare Improvement, 2017). One aspect of implementation that might need revision is the time allotted to complete the training session. While in the first cycle nurses would have five weeks to complete the training session after registration, more or less time could be given based on feedback. Also, revision may occur concerning the effectiveness of the training, and whether or not more material is needed for the online educational session to be clear and effective in providing nurses the confidence to implement the intervention. The final part of the Act stage is to develop and plan for the next PDSA cycle based on the changes and refinements made to the current cycle (Institute for Healthcare Improvement, 2017).

Strengths and Limitations of Thesis Project

The major strength of this thesis project is that the best practice recommendations were developed after a thorough review of the current literature. This resulted in overwhelming support for the benefits of music therapy in decreasing depression, anxiety, agitation and increasing overall wellbeing and quality of life among patients with varying stages of dementia. The literature review also indicated several other benefits of using music therapy as a non-invasive integrative intervention such as creating a positive impact on behavioral symptoms, increasing spontaneous speech, increasing joy, and strengthening the bond between the patient and their caregiver or family members. In addition, the online educational training session could be implemented in other facilities besides acute care settings. Due to the online nature of the training session, it could be implemented in other facilities such as memory care facilities, long-term care facilities, or by home-health nurses. This would increase knowledge of the benefits of implementing music therapy into care, and how to do so in an effective manner, in turn creating positive benefits and outcomes for patients with dementia.

The thesis project has limitations surrounding how often music therapy should be implemented. While one study in the literature review integrated music therapy daily for twenty-minute sessions, with significant decreases in depression, the study does not compare integrating music therapy daily for twenty-minutes to another time-length or frequency (Ray & Götell, 2018). Another study showed benefits after implementing music therapy for 45 minutes twice a week but did not compare this to another time-length or frequency since this was not the purpose of the study (Dassa & Amir, 2014). Therefore, more research is needed to analyze the effectiveness of implementing music therapy for different lengths of time. Furthermore, the music therapists creating the online educational training sessions might not have sufficient

training on the technology involved with designing an online training session. This is also assuming that music therapists accredited by the American Music Therapy Association would be available and willing to participate in this plan of implementation which could be another shortcoming of this thesis.

Summary

The purpose of this thesis was to develop best practice recommendations for decreasing anxiety, depression, and agitation in patients with dementia through music therapy. In this thesis, recommendations for best practice were created using evidence-based research articles that discussed the effectiveness of implementing certain forms of music therapy. In chapter 1 the background of issue importance and relevance of the topic to nursing was stated. Chapter 2 detailed the evidence-based research articles pertaining to music therapy implementation for patients with dementia. In chapter three, evidence-based best practice recommendations were formed concerning the integration of music therapy into the care of patients with dementia. The research has shown the effectiveness of music therapy at decreasing anxiety, depression, and agitation among patients with dementia. Using a song specific to an individual when implementing music therapy, can be beneficial for memory and cognitive function (Fraile et al., 2019). Spontaneous speech can be initiated when the music pertains to the individual's identity (Dassa & Amir, 2014). The research also details that receptive music therapy, is more beneficial at decreasing agitation, anxiety, and behavioral problems than interactive music therapy (Tsoi et al., 2018). Additionally, with training some types of music therapy can be successfully implemented by other healthcare workers without the presence of a music therapist (Ray & Götell, 2018). After examining chapters one and two, a best practice recommendation proposal was completed using the PDSA cycle with the purpose of improving the lives of patients with dementia through the implementation of music therapy. Through this proposal, music therapy was to be implemented after nurses on a neurological unit participate in an online educational training session. This would be implemented on a wider scale once several PDSA cycles occur, allowing for improvement of the implementation.

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